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Disinformation: Or, Why the CIA Cannot Verify an Arms-Control Agreement

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WHEN Secretary of Defense Caspar Weinberger revealed last April that the Soviet Union had achieved superiority over the United States in intercontinental missiles, he provoked a furor in Congress over the status of the nuclear balance. Weinberger's revelation also pointed to an intelligence failure of unprecedented proportions that extended back over two decades, and that cast a great shadow of doubt over the capacity of the United States to keep accurate track of the Soviet military arsenal and therefore to verify any arms-control agreement with the Soviet Union in the future.

In 1961, the Soviet Union, despite all its bluff and bluster, had deployed only four cumbersome and unreliable intercontinental missiles. U.S. intelligence had confidently asserted that there was no way the Soviet Union could ever deploy the number of missiles necessary to threaten the rapidly expanding American missile force without providing years of advance warning.

Such confidence then seemed fully warranted, as U.S. intelligence had through its technical wizardry found means of intercepting virtually all the Soviet missile-testing data, or telemetry, and of determining the accuracy of the missiles. It was on the basis of this powerful array of intelligence about Soviet activity that American leaders made crucial decisions throughout the 1960's concerning the number, location, and defense of America's missiles.

Yet in the event, these intelligence assumptions proved to be seriously flawed. Even though its missile testing was being relentlessly monitored by America's electronic sentinels in space and on land, the Soviet Union, *without* alerting U.S. intelligence, managed to develop—and deploy—missiles with multiple warheads accurate enough to attack the most hardened missile silos in the United States.

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How could such a massive development not have been detected?

At first, explanations for this incredible intelligence failure tended to focus on the errors of the American analysts. The inability to see improved Soviet missile accuracy was attributed either to the prevailing disposition grossly to underestimate Soviet technical competence, or to incorrect assumptions about the method by which Soviet scientists tested missile accuracy. The fault, in other words, lay in self-deception.

However, when the data taken from the Soviet missiles were studied in retrospect, with the help of new and better methods of analysis, it appeared that considerably more was involved in the intelligence failure than American mistakes and self-deception. This reanalysis suggested that the Soviet Union had deliberately and systematically misled American intelligence by manipulating and "biasing," as it is called, the missile transmissions that were being intercepted. In other words, by channeling doctored data into our most sophisticated scientific spying devices, Soviet intelligence had duped the satellites and antennas on which American intelligence had come to depend. The Soviets had thereby effected a decisive change in the delicate balance of strategic missiles.

After nearly a decade of bitter debate within the secret world of intelligence, the deception issue still remains unresolved. Recently a plan was drawn up by the National Security Council staff to place technical as well as human spies under the scrutiny of a centralized counterintelligence authority. The proponents of this reorganization argue that without such an "all-source" unit, able to piece together information from secret agents, surveillance cameras, and the interception of coded messages and telemetry, the various intelligence-gathering services could again be easily deceived. The opponents of this plan in the American intelligence agencies doubt that the Soviets ever in fact orchestrated a massive deception of our highly sophisticated monitoring devices, and reject the proposed centralization as unnecessary and destructive of morale. The deep and intense divisions over this plan were reflected in the sudden resignation of Admiral Bobby

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Inman, who opposed it, as the Deputy Director of the CIA.

Thus, at the core of the dispute is not merely a jurisdictional struggle over who should test the probity of exotic intelligence, but a powerful disagreement over the vulnerability of American intelligence to deception on matters of vital national security. With a multibillion-dollar global intelligence system at our command, have we nonetheless been consistently misled by fraudulent bits of information? And if so, is there anything we can do to make certain it will never happen again?

DECEPTION among nations is not of course a new subject in power politics. As early as the 16th century Machiavelli concluded that there were only two means for a nation to gain its objective from an unwilling adversary: force or fraud. Since the application of force entailed expending resources and taking serious risks, Machiavelli strongly recommended that a ruler should "never attempt to win by force what he might otherwise win by fraud." The basic economy of power that Machiavelli described is, if anything, even more relevant in an age of nuclear weapons.

To be successful, fraud requires changing an adversary's perceptions of reality. It is commonly employed in wartime to mislead an enemy into believing that a military force is either stronger or weaker than it is in reality; indeed, as the Chinese strategist Sun Tzu wrote in the 4th century B.C.E., "All warfare is based on deception." In peacetime, though its applications are far less obvious, fraud still remains an effective means of altering the geopolitical balance of power. These peacetime frauds are usually perpetrated on an adversary's intelligence-gathering system on the presumption that the fraudulent intelligence will eventually reach and influence decision-makers.

Consider, for example, one such case that took place in New York City in the 1960's and early 70's. It began when a KGB officer working at the United Nations Secretariat contacted the FBI and offered to betray the Soviet Union by supplying secret information. He claimed that the KGB had mistreated him by taking back part of his UN salary, and he asked the FBI to pay him for his services. The FBI accepted his terms and gave him the code name "Fedora." Since Fedora would continue to work for the KGB while also working for the FBI, he was considered to be a double agent.

Fedora told the FBI that the KGB had ordered him to organize a spy ring in New York that would ferret out American scientific secrets—especially those involving defense and missile technology. By reporting all the activities and targets of this scientific spying to the FBI, he could provide American intelligence with information about the priorities of Soviet intelligence. As the relationship developed, Fedora also acted as a "mole" in the KGB, and passed on a continuous flow of secret data.

Later that year, the FBI had another Soviet "walk-in," as a volunteer is called, from the UN. He identified himself as an officer in Soviet military intelligence, the GRU, and explained that he was in New York, under UN cover, attempting to ferret out American military secrets in overt literature. He also offered to work for the FBI as a double agent, and he was given the code name "Tophat."

For the next ten years, Fedora and Tophat provided the FBI with dovetailing bits of information on the development of Soviet weaponry which were brought at times by J. Edgar Hoover directly to the attention of the President and his National Security Adviser. Some of these reports were indeed responsible for provoking serious changes in the defense strategy of the United States. In 1969, for instance, Hoover in a personal briefing informed President Nixon that the FBI had established through super-secret sources (i.e., Fedora and Tophat) that the Soviet Union was on the brink of launching a crash program to develop chemical-biological weapons. Specifically, Fedora had learned that Soviet leaders had been shocked to discover that the United States had a decisive lead in this field and believed that even with a crash program it would take years to narrow the gap. It further appeared, according to Tophat, that Soviet military leaders were not eager to divert enormous resources into the research necessary for chemical weapons, and they were therefore requesting further intelligence assessments of the American chemical-warfare effort.

Just at the time this intriguing intelligence was received, President Nixon was weighing the merits of a unilateral cutback in the production of chemical and biological weapons. The reports from Fedora and Tophat now suggested that (with the Soviet Union presumably far behind in development) the United States could gain a definite advantage by freezing chemical and biological weapons at their existing levels. On November 25, 1969, President Nixon announced accordingly that the United States was ending production of these weapons in the hope that the Soviet Union would similarly stop its production. Shortly thereafter Fedora and Tophat reported to the FBI that the Soviet crash program had been abandoned. It was therefore assumed that the United States had retained its lead in these weapons.

Four years later, when Israel captured Soviet tanks and other equipment in the Yom Kippur war, U.S. intelligence found that it had greatly underestimated the Soviet capacity for chemical warfare. The captured weapons provided the first actual evidence of the development and the state of the art of Soviet chemical weapons and defenses, and the analysis of this equipment showed that the United States was unquestionably behind rather than ahead of the Soviet Union in chemical warfare. Moreover, by working backward from the state of manufacture of this equipment, it was further established that the Soviet Union had possessed this

technology—and thus a lead—*before* 1969. Evidently, then, the reports of Fedora and Tophat had been inaccurate—and possibly fraudulent.

This and other developments led to a reassessment of the FBI's sources. The CIA had been suspicious of both Fedora and Tophat from the outset, and these disclosures reinforced its suspicions. And although FBI counterintelligence officials, such as Assistant Director William Sullivan, also doubted the credentials of Fedora and Tophat, J. Edgar Hoover insisted on accepting their reports as bona-fide intelligence. It was not until after Hoover's death, and a further reassessment, that the FBI admitted that both agents, who had by then returned to the Soviet Union, had actually been working under the control of the KGB and feeding the FBI misleading information.

THE practice of systematically channeling misleading information, such as that supplied by Fedora and Tophat, into an adversary's intelligence system for the purpose of warping its decision-making process is called "disinformation." Although the concept is ancient, the term originated with the German general staff when it created a "disinformation service" to mislead Germany's enemies in World War I. Unlike ordinary misinformation, which might be accidental and random, disinformation was the purposeful shaping of information to enhance the military strategy of the German general staff. While the German Disinformation Service restricted its scope of activities to sending misleading radio transmissions to the enemy, the purview of disinformation gradually expanded after the war.

Soviet intelligence very quickly adopted the idea of *"dezinformatsiya"* to its own purposes and redefined it, as a recent KGB manual discloses, in the following terms: "Strategic disinformation assists in the execution of state tasks and is directed at misleading the enemy concerning questions of state policy." As the manual makes abundantly clear, strategic disinformation is in both peacetime and wartime an instrument of Soviet policy. Just as Clausewitz defined war as the accomplishment of state policy by "the sword in place of the pen," disinformation returns the accomplishment of state policy in Soviet doctrine to the pen—albeit a poisoned one. And since strategic disinformation is inseparable from state policy, it is formulated at the highest level of the Kremlin. Indeed, according to General Jan Sejna, who had served on the Central Committee in Czechoslovakia, and who defected in 1968: "The Soviet Politburo approves the long-term global plan [for disinformation] for fifteen years and beyond."[*]

Whereas strategic disinformation is part and parcel of a "political plan" formulated by the Soviet Politburo, "tactical disinformation" is a mechanism designed and operated by the KGB itself to manipulate and control the adversary's interpretation of its own intelligence. Although there are numerous combinations and permutations available, the basic device for manipulation consists of a loop of communication channels connecting the KGB with the adversary's intelligence services. This loop requires an input channel, through which the disinformation messages are fed to the adversary, and a feedback channel, through which the adversary's response and interpretation of these messages are fed to the deceiver.

The input channels are relatively easy to organize. At a rudimentary level, disinformation messages can simply be put in the path of the adversary. Thus Soviet intelligence in the 1950's left disinformation documents in embassy safes in Washington knowing that the FBI made a practice of burglarizing and photographing the contents.

A more dependable channel for delivering messages to the enemy is a double agent, such as Fedora, who pretends to cooperate with enemy intellience in order to win its confidence. At times, when the message is of sufficient import, an intelligence agent may even be dispatched to "defect" physically in order to add to the credibility of the disinformation. In addition to agents, electronic taps and "bugs," or hidden microphones, can be used as input channels for disinformation if they are detected—and left in place. The effectiveness of such electronic channels will depend of course on the adversary's not realizing that its listening devices have been discovered.

The establishment of the feedback in the loop is a far more difficult enterprise. It has generally required penetrating the heart of the adversary's intelligence system by either planting a "mole" in position where he learns and reports back interpretations of the disinformation, or by intercepting and breaking vital intelligence codes. However, now that computerized encryption has rendered codebreaking all but impossible, agents in place, or moles, have become the chief means of feedback in the deception loop.

The KGB was able to maintain its Fedora-Top-

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[*] Disinformation, which aims at extending state policy, is a very different concept in Soviet doctrine from propaganda. Whereas disinformation aims at misleading an enemy government into making a disadvantageous decision, propaganda aims at misleading public opinion so that it resists the advantageous decisions of its government. The audience for disinformation is thus government decision-makers, and the prime channel for reaching this audience is through the intelligence service upon which they rely for their secret information. The data itself are usually secret and, as a recent CIA study notes, "almost never receive public attention." Propaganda, on the other hand, is aimed at an audience of influential citizens. The main channel through which it reaches this audience is the media. By its very nature, propaganda involves public rather than secret knowledge.

While there has recently been a tendency to use the more novel term "disinformation" to describe the manipulation of the media, the collapsing of the distinction between disinformation and propaganda tends to confuse two very different sets of problems.

hat deception for more than a decade precisely because it had recruited a mole inside the New York office of the FBI. According to William Sullivan, without an inside source, the KGB could not have constantly modified Fedora's messages so that they conformed to the expectations of the FBI. While Sullivan had traced the putative mole to the New York office, he was unable to single him out. "At the time I left the FBI in 1971, the Russians still had a man in our office and none of us knew who he was," he noted in his memoirs.

Feedback is an especially critical part of a continuing deception. Without it, the success of disinformation is problematic; with it, not only can the success of the deception be immediately ascertained but it can be modified to accommodate any of its failings.

LENIN himself articulated the governing principle of Soviet disinformation in the early 1920's. When his first intelligence chief, Felix Dzerzhinsky, asked him what sort of disinformation should be fed to the West, Lenin replied: "Tell them what they want to believe." Lenin, who had a natural genius for such manipulations, realized the futility of using the disinformation channels in an attempt to undermine the fierce anti-Communist beliefs of Western leaders. Instead, he recommended using these predispositions to the Soviet Union's advantage by designing the disinformation around the theme that Communism was failing. Since Western leaders wanted to believe that the Communist experiment would soon collapse, there was a strong disposition to accept the disinformation.

Lenin provided a credible context for the secret disinformation campaign by declaring a New Economic Policy (or NEP) in which pure Communism would be replaced by a mixed system of state socialism and private capitalism. He further invited foreign capitalists to the Soviet Union, and offered them concessions in mining and manufacturing that would replace failing Communist enterprises. Specifically, Lenin called in prominent Western businessmen and told them that Communism wasn't working in Russia.

Meanwhile, on the covert side, Soviet intelligence organized a device for funneling disinformation coinciding with this theme into the hands of Western intelligence services. This was a supposedly anti-Communist resistance group inside the Soviet Union called the "Trust"—a name not without irony since the sole purpose of the organization was to deceive those who trusted it. Representatives of the Trust contacted all the leading anti-Soviet organizations in exile in Europe and offered to help them steal Soviet secrets and arrange escapes for their relatives and associates inside Russia. Since the Trust was in reality a creature of the Soviet intelligence service, it was easily able to deliver all the services it promised. It thus soon managed to convince these émigré groups that it represented a powerful anti-Communist force with agents infiltrated throughout the Soviet government.

Once the Trust was accepted as credible, it began to parcel out pieces of secret information to the various anti-Communist groups which, in turn, sold the information to the Western intelligence services they were in contact with. Carefully orchestrated by Soviet intelligence, these pieces of disinformation tended to dovetail with and confirm each other. The main theme was that the Soviet government remained in power not because of the appeal of Communism, but because Western intervention had aroused Russian nationalism in support of the government. Presumably if foreign intervention subsided, Soviet officials and army officers would themselves overthrow the Communist government.

As Western governments came to accept this convenient thesis, they ceased planning troop landings, economic blockades, and less dramatic forms of harassment. Moreover, they dissuaded émigré groups based inside their borders from undertaking campaigns of sabotage and subversion within the Soviet Union, on the ground that such acts would have the unintended effect of delaying the overthrow of the government.

The Trust proved to be an enormous success as a channel for disinformation. Not only did it manage to quiet and anesthetize opposition to the Soviet Union by holding out the promise of an inside revolution; it also collected sums of money from nine Western intelligence services for the disinformation it provided which proved sufficient to finance the Trust itself as well as almost all the international activities of Soviet intelligence for six years.

Finally, in 1927, after the end of the NEP and the nationalization of almost all foreign concessions, Soviet intelligence liquidated the Trust by sending a false defector to Helsinki to reveal that it had been a fraud from the beginning. This revelation served the purpose of further demoralizing and confusing the anti-Soviet opposition.

Deceptions like the Trust involve a remarkable degree of cooperation, albeit unwitting, between the deceived and the deceiver. Like a form of intellectual jiujitsu, the disinformation takes full advantage of the weight of an adversary's predispositions in order to mislead it. If successfully deceived, an intelligence service views the messages it has received from the enemy as a triumphant coup, and it therefore can be expected to resist any subsequent efforts to debunk or discredit it (as the FBI later did for so long with Fedora and Tophat).

WITH the outbreak of World War II came a new reliance on intelligence —and its nemesis, disinformation. The radio sig-

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nals, electronic data, and coded messages that were intercepted to pinpoint the movements of military units could also be fabricated by disinformation experts in order to confuse and mislead rival intelligence services. Since both real intelligence and disinformation originate in the enemy camp, with the only difference that the former is meant to be kept secret and the latter disclosed, they are extraordinarily difficult to separate. In this sense, disinformation is analogous to cancerous cells which the body's immunological system cannot differentiate from healthy cells. The injection of electronic disinformation managed, if nothing else, to paralyze and confuse the gathering of crucial military intelligence.

Strategic deception was used by almost every participant in the war, with Britain and Germany each successful in manipulating and misleading adversaries through the use of controlled double agents and misleading radio transmissions.* As the war progressed, deception-planning staffs in Germany, England, America, and the Soviet Union were attached to the high command, and thereby became responsible for overall strategy. William R. Harris, an analyst at RAND and a leading expert on international deception, suggests that this development "laid the institutional foundation for the modern double-cross system." This "double cross" involved feeding false or biased data into enemy satellites, ground antennas, and other "national technical means," as this spying is euphemistically called. Harris writes:

> Once deception planning was part of the strategic planning process, the systematic targeting of an adversary's technical means of collection was inevitable. Unlike their counterparts in the field, the planners at the political centers had access to the most sensitive counterintelligence resources. These resources included access, through decryption of enemy ciphers, to key intelligence and decision-making channels. This feedback led deception planners to the targeting of technical indicators, and especially those that were most credible to an adversary.

Soviet intelligence in World War II lost little time in exploiting the technical capacity of its enemies to intercept Soviet communications. When it found that German intelligence had tapped into the cable links between the Soviet embassy in Tokyo and Moscow, and had broken the diplomatic ciphers, it neither closed down the tapped line nor switched to using the same kind of "one-time" codes which it used elsewhere (and were unbreakable). Instead, it turned the compromised communications to its own advantage by arranging for its diplomats to transmit disinformation messages in the code that it knew full well had been broken. Feedback on German interpretations of this Soviet disinformation was supplied by a group of moles who had been recruited in German intelligence.†

In general, the Soviets proved extremely proficient at this new species of disinformation. For example, in the summer of 1944, the Soviet deception staff managed through fake radio traffic and double-agents to persuade German intelligence that the Soviet offensive would come on the flanks in Finland and Rumania, and not in the center of the front in Byelorussia. Even though the Soviets amassed an army of 1,500,000 troops in Byelorussia, German intelligence was by this time so focused on the flanks that it failed to see this gigantic army. The Soviet offensive, which swept through an area the size of West Germany, caught the Germans totally by surprise.

THE wartime refinement of disinformation provided Stalin with an extraordinarily useful instrument for waging the cold war. Swords could again be replaced by poisoned pens. In the immediate postwar years, Soviet disinformation focused on undermining American efforts to organize opposition to Soviet rule in Eastern Europe. In 1951, for example, Soviet intelligence organized a fictitious underground "army" in Poland known by the acronym WIN (which stood in Polish for "Freedom and Independence"). Working through Polish exiles in London, WIN contacted the CIA and British Intelligence (SIS) and represented itself as a group commanding thousands of armed guerrillas in Poland. These claims were reinforced by a number of double agents under Soviet control, and by interceptions of police and militia radio broadcasts in Poland, which seemed to confirm that Soviet and Polish units were being harassed by guerrillas.

Both the CIA and British SIS accepted WIN as a bona-fide anti-Communist "army." Thus for more than a year, the CIA parachuted to WIN forces in Poland large caches of weapons, electronic equipment, and gold bullion. It also put its own agents and Polish dissidents directly in touch with WIN commanders. In December 1952, after arresting all the agents and dissidents who had contacted WIN, Polish security forces announced over the radio sufficient details about WIN to make it clear to the CIA that it had been duped by an intelligence fraud.

The WIN deception achieved a double success: it lured virtually all the resistance groups inside

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* For the British deception that concealed the time, place, and purpose of the Normandy landings in 1944, see Anthony Cave Brown, *Bodyguard of Lies* (Harper & Row, 1976). The British use of double agents for disinformation is detailed in J.D. Masterman, *The Double Cross System* (Yale University Press, 1972). For a full account of the German use of disinformation to confuse Stalin over the purpose of the movement of over 100 divisions to the Soviet border, see Barton Whaley, *Codeword Barbarossa* (MIT Press, 1973).

† Reinhard Gehlen, *The Service* (World Publishing, 1972), p. 70.

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Poland into a trap; and it thoroughly demoralized —and discredited—the exile groups outside Poland. The fact that the CIA had inadvertently financed the deception with gold bullion was an added bonus to Soviet intelligence.

Although deceptions may employ a highly convoluted series of actions, they proceed from a basic theme that involves misrepresenting either strength or weakness. "I make the enemy see my strengths as weaknesses and weaknesses as strengths," a commentator notes in Sun Tzu's *Art of War*. In the case of both the Trust deception of the 1920's and the Polish Home Army deception in the late 1940's, the Soviet Union concealed its political strength (and capacity for repression) behind a mask of political weakness and internal strife. This theme was reversed in the 1950's, at least in the area of strategic weapons, when Soviet leaders began misrepresenting their weakness in intercontinental bombers and missiles as strength. Not only did Soviet intelligence attempt to mislead U.S. intelligence into overestimating Soviet bombers and missile capacity through the usual orchestration of double agents, leaks from Soviet scientists at conferences, and official statements; it also staged elaborate "fly-bys" of bombers at parades in which the same planes circled repeatedly over the reviewing stand in order to give an exaggerated impression of strength.

During this period, Soviet intelligence also attempted to give the United States an impression of strength in its capacity to manufacture nuclear weapons. A German double agent, Heinz Felfe, actually under the control of the KGB, provided the CIA with a high-grade sample of uranium ore supposedly from mines in Czechoslovakia which led the CIA to revise upward its estimates of the number of Soviet nuclear bombs. The Soviet projection of intercontinental strength, which was characterized as the "missile gap" in the election of 1960, succeeded in making the threats and bluster of Khrushchev more credible. Moreover, by focusing the attention of U.S. intelligence on the intercontinental threat, the Soviets diverted attention from the rapid expansion of their medium-range bomber and missile forces that were deployed against Eurasian targets during this same period.

A few years later, reversing the process once again to convey an impression of weakness, the Soviets misled the CIA into the belief that Soviet missiles—and especially the giant SS-9—lacked accurate guidance systems. From this it followed that these missiles were not a threat to our land-based ICBM force (the Minuteman complexes), and thus there was no need to disperse or reinforce the silos, or to attempt to develop an antiballistic missile. Given these assumptions about the relative inaccuracy of the Soviet guidance system, Secretary

of Defense McNamara concluded, as he testified in 1963:

> It is clear that the Soviets do not have anything like the number of missiles necessary to knock out our Minuteman force, nor do they appear to have any present plans to acquire such a capacity. If they were to undertake the construction and deployment of a large number of high-yield missiles, we would probably have knowledge of this and would have ample time to expand our Minuteman force, or to disperse it more widely.

As it turned out, McNamara, along with the entire American strategic establishment, was dead wrong. Without "knowledge" by U.S. intelligence, the Soviet Union did proceed to deploy a highly accurate force that threatened to overwhelm the Minuteman deterrent. How could U.S. intelligence, with all its satellites, electronic sensors, and other resources, have been led into missing or misinterpreting such a massive development in Soviet missile technology?

Albert Wohlstetter has suggested that the CIA estimators tended to shape ambiguities in their data toward a preconceived theory they held about Soviet strategy, and the pressure toward "conformity" and "consensus" overrode hostile evidence. Such self-deception on the part of the CIA analysts does not, however, preclude the possibility of their having been misled by disinformation. Indeed, when a feedback channel exists, preconceptions are an important ingredient in the perpetration of an intelligence fraud ("Tell them what they want to believe"). And there were at least two such feedback channels in the early 60's, in the form of moles who were eventually identified.

One was Jack E. Dunlap, employed at the headquarters of the super-secret National Security Agency (NSA) as an analyst with top-secret clearance and also as the chauffeur for its chief-of-staff, Major General Garrison B. Coverdale. In this latter capacity, he was permitted to drive one of the few "no-inspection" cars off the closely-guarded base which he used to smuggle out vast quantities of secret documents, including some that concerned the monitoring of Soviet missile testing. After the leak was discovered in 1963, Dunlap committed suicide.

Soviet intelligence also had an unparalleled channel of feedback at the U.S. Joint Chiefs of Staff in the person of Colonel William Whalen. Colonel Whalen, who had been recruited by Soviet intelligence in the late 1950's when he was serving as a military liaison officer, was the intelligence adviser to the Army Chief of Staff, and in this capacity he had a legitimate "need to know" on virtually any question concerning U.S. (or Soviet) intelligence. He could thus tap the combined intelligence resources of the CIA, FBI, and NSA, as well as military intelligence, on any matter of presumed interest to the Joint Chiefs of Staff. Up until his detection and arrest in 1963, he supplied whatever infor-

mation the KGB required concerning American interpretation of intelligence information intercepted from the Soviet Union. With this in hand, the KGB could constantly adjust and modify its stream of disinformation.

In short, since the intelligence establishment was basing its estimates of the accuracy of Soviet guidance systems on data intercepted from Soviet transmitters, which the Soviets knew were being monitored, and on reports from double agents under KGB control, self-deception could only have been one element of a well-executed scheme of disinformation.

To be sure, vital pieces of the puzzle were unavailable until the early 1970's when new and better methods were developed of photographing and analyzing the craters caused by the impact of Soviet warheads. These revealed a profound discrepancy between the estimates of missile accuracy garnered from the interception of Soviet telemetry and the actual degree of accuracy as measured by this new photoreconnaissance method. There could be no doubt that American intelligence had been misled by disinformation.

AT THE root of the entire problem was a small device that measured gravity called an accelerometer. Soviet missiles carried three accelerometers, and it had been assumed that these devices performed the critically important task of determining the exact position of the missile in flight. If these accelerometers were even a shade inaccurate, the missile could not accurately hit its target. Since the CIA was able to intercept the signals from these accelerometers during tests through its ground antennas in Iran and Pakistan, it believed that it had a constant indicator of accuracy. Although the CIA presumed that Soviet intelligence was aware that its telemetry was being intercepted, it also assumed that these vital data could not be falsified because they were needed for guiding the missile.

Reassessments by the RAND Corporation and other highly specialized think tanks under contract to the CIA and the Department of Defense showed, however, that since the three accelerometers provided redundant instrumentation, it was technically possible for the Soviets deliberately to distort the data from one accelerometer without losing the ability to monitor the missile test accurately. Indeed, a reanalysis of the telemetry data seemed to indicate just such a "systematic bias"—or disinformation. After studying this telemetry problem, William Harris of RAND testified before the Senate Select Committee on Intelligence. He concluded:

With an understanding of the technical indicators and methods of U.S. estimation of ballistic missile accuracy, the Soviets managed to underrepresent the accuracy of intercontinental ballistic missiles. . . . Only systematic biasing of technical indicators would produce the apparently large errors in guidance. . . .

The "technical indicators" he referred to were of course the telemetry from the on-board accelerometers. Assuming that the Soviets realized that we were underestimating their missile accuracy—and there was sufficient feedback from public as well as intelligence sources during this period—the continued biasing of the telemetry could only have been disinformation.

In addition to thus "double-crossing" our electronic devices, the Soviets, through the activities of double agents under KGB control in the U.S., kept the attention of U.S. intelligence focused on the accelerometers. Fedora, for example, told the FBI that the Soviet Union was having severe problems constructing missile-guidance systems. Then, in the mid-60's, he reported to the FBI that the KGB had been assigned the task of buying an accelerometer from an American company. As he was responsible for stealing secrets on scientific and missile developments, this KGB request came under his purview. A few weeks later, a Soviet employee at the UN named Vadim Isakov visited a dealer in surplus government equipment in Paterson, New Jersey; producing a shopping list, he offered to buy a $6,000 accelerometer made by the American Bosch Arma Company, a miniature computer, and a titanium pressure vehicle—devices that were all necessary to missile guidance. The FBI, which had the entire Soviet buying mission under surveillance, found that Isakov seemed particularly anxious about the accelerometers. Fedora meanwhile was asked by the FBI to inquire into the need for this special equipment on a trip he was making to Moscow. When he returned to New York, he told the FBI the equipment was needed because of a failure in the Soviet missile program.

The pieces fit neatly together, and the FBI liaison duly passed on the evidence of the Soviet missile failure to the CIA's Directorate of Science and Technology which found that it dovetailed with the analysis of the telemetry intercepts. Different channels of secret information thus seemed to corroborate one another.

It was not until late 1974 that the CIA began an agonizing examination of the possibility that its satellites and antennas were being "double-crossed" by Soviet disinformation. A special "reading room" for this super-secret data was set up for CIA counterintelligence specialists at the Directorate of Science and Technology. Before the problem could be even initially explored, the entire counterintelligence staff was shaken up—and most of its key members forcibly retired—in the wake of the firing (for other reasons) of its chief, James Angleton, in December 1974.

DISINFORMATION, then, emerges as the only plausible explanation of how the Soviets achieved a strategic breakout of the missile

stalemate. The problem for the Soviet Union in the early 60's was to increase its vulnerable and numerically inferior missile force to a threatening level—without provoking the United States similarly to increase, or defend, its existing missile force. Moreover, the Soviet Union had to effect this build-up at a time when all its silo-construction and missile-testing programs were being closely monitored by the cameras and sensors of U.S. spy satellites. It was able to accomplish this seemingly impossible task because U.S. intelligence gravely underestimated the truly threatening aspect of the Soviet missiles—their potential for accuracy—on the basis of intercepted test data and the reports of double agents that had been deliberately falsified and that played into preconceptions about the Soviet Union's technological capacity.

The likelihood that such a deception could have been detected in a contemporaneous time frame seems remote. Disinformations that mimic prevailing preconceptions contain their own camouflage. Moreover, as we have seen, such deceptions rapidly become entangled and fused with the bureaucratic interests of the intelligence services themselves, and any effort to attack them becomes perceived as an attack on the intelligence service itself. For exam-

ple, to ferret out evidence of the missile deception, it would have been necessary to call into question the credibility of such highly productive sources as the satellites, antennas, and the moles working within Soviet intelligence. Most career officers who tried to do this found their careers at an end.

THUS, while Congress and the informed public have been under the impression that satellites and electronic wizardry can be relied upon for foolproof intelligence, the story of the misestimates of Soviet missile accuracy demonstrates that these "national technical means" are at least as susceptible to Soviet deception as less exotic means of intelligence-gathering. The persistent denial of the problem of disinformation serves only to increase its chances of success. And without a radical reorganization of the kind that is opposed by the CIA bureaucracy, it is unlikely that any effective measures can be taken to prevent our intelligence services and ultimately our national leaders from being "double-crossed" again. Their continuing vulnerability to Soviet disinformation casts the most serious doubt on whether "national technical means" can ever be sufficient to verify Soviet compliance with any new arms-control agreement.